

Elsevier Editorial System(tm) for Journal of
Business Research
Manuscript Draft

Manuscript Number: JBR-D-19-01842R2

Title: Toward a dynamic construction of organizational ambidexterity:
exploring the synergies between structural differentiation,
organizational context, and interorganizational relations

Article Type: SI: INEKA 2019 Knowledge

Keywords: Organizational Ambidexterity; Organizational Context;
Structural Differentiation; Interorganizational Relations; Firm
Performance

Corresponding Author: Ms. Mercedes Úbeda-García, Lecturer

Corresponding Author's Institution: University of Alicante

First Author: Mercedes Úbeda-García, Lecturer

Order of Authors: Mercedes Úbeda-García, Lecturer; Enrique Claver-Cortés;
Bartolome Marco-Lajara; Patrocinio Zaragoza-Sáez

Abstract: This paper has as its aim to offer an integrated vision of organizational ambidexterity, proposing and contrasting a model which – under the dynamic capabilities approach– sees ambidexterity as the result of combining the most important antecedent factors mentioned in the literature, but which have hitherto been studied only on an individual basis. We are referring to structural differentiation, organizational context, and interorganizational relations. A variance-based structural equation modeling was applied to a sample of Spanish hotel firms. The results obtained show that organizational ambidexterity can be reached resolving the exploration and exploitation tensions both across different organizational units (structural differentiation) and choosing to resolve those tensions outside the firm's boundaries (interorganizational relations), and taking advantage of an organizational context which, in addition to impacting directly on the achievement of ambidexterity, also appears as a mediator variable between the other two antecedents and ambidexterity.

Dear Editor,

I to send my paper titled ""Toward a dynamic construction of organizational ambidexterity: exploring the synergies between structural differentiation, organizational context, and interorganizational relations" to consider your publication in JBR. The document the document has been formatted following the guidelines of JBR.

Thank you.

Sincerely,

Mercedes Úbeda-García

Toward a dynamic construction of organizational ambidexterity: exploring the synergies between structural differentiation, organizational context, and interorganizational relations

Mercedes Úbeda-García¹

Enrique Claver-Cortés

Bartolomé Marco-Lajara

Patrocinio Zaragoza-Sáez

Business Organization Department

University of Alicante

P.O. Box 99 E-03080, Alicante (Spain)

Abstract:

According to the literature on ambidexterity, organizations can use structural, contextual or interorganizational approaches to simultaneously explore novel opportunities and exploit existing ones. So far, however, the possibility of combining the three approaches to maximize organizational learning has not been investigated. To deepen this aspect, this paper has as its aim, on the one hand, to offer an integrated vision of organizational ambidexterity, proposing and contrasting a model which —under the dynamic capabilities approach— sees ambidexterity as the result of combining the most important antecedent factors mentioned in the literature, but which have hitherto been studied only on an individual basis. We are referring to structural differentiation, organizational context, and interorganizational relations. On the other hand, the model suggested establishes the mediation role exerted by the organizational context between structural differentiation and interorganizational relations when it comes to reaching ambidexterity. Finally, it is our intention to identify the effects of ambidexterity on performance. A variance-based structural equation modeling (Partial Least Squares) was applied to a sample of Spanish hotel firms. The results obtained show that organizational ambidexterity can be reached resolving the exploration and exploitation

¹ Corresponding author

tensions both across different organizational units (structural differentiation) and choosing to resolve those tensions outside the firm's boundaries (interorganizational relations), and taking advantage of an organizational context which, in addition to impacting directly on the achievement of ambidexterity, also appears as a mediator variable between the other two antecedents and ambidexterity, which in turn tells us that this context is the one which enables organizations to carry out the integration of the various (internal or external) knowledge sources. On the other hand, the ambidexterity thus defined, has shown a positive result on organizational performance.

Keywords: *Organizational Ambidexterity; Organizational Context; Structural Differentiation; Interorganizational Relations; Firm Performance*

Toward a dynamic construction of organizational ambidexterity: exploring the synergies between structural differentiation, organizational context, and interorganizational relations

Abstract:

According to the literature on ambidexterity, organizations can use structural, contextual or interorganizational approaches to simultaneously explore novel opportunities and exploit existing ones. So far, however, the possibility of combining the three approaches to maximize organizational learning has not been investigated. To deepen this aspect, this paper has as its aim, on the one hand, to offer an integrated vision of organizational ambidexterity, proposing and contrasting a model which —under the dynamic capabilities approach— sees ambidexterity as the result of combining the most important antecedent factors mentioned in the literature, but which have hitherto been studied only on an individual basis. We are referring to structural differentiation, organizational context, and interorganizational relations. On the other hand, the model suggested establishes the mediation role exerted by the organizational context between structural differentiation and interorganizational relations when it comes to reaching ambidexterity. Finally, it is our intention to identify the effects of ambidexterity on performance. A variance-based structural equation modeling (Partial Least Squares) was applied to a sample of Spanish hotel firms. The results obtained show that organizational ambidexterity can be reached resolving the exploration and exploitation tensions both across different organizational units (structural differentiation) and, choosing to resolve those tensions outside the firm's boundaries (interorganizational relations) and, taking advantage of an organizational context which, in addition to impacting directly on the achievement of ambidexterity, also appears as a mediator variable between the other two antecedents and ambidexterity, which in turn tells us that this context is the one which enables organizations to carry out the integration of the

various (internal or external) knowledge sources. On the other hand, the ambidexterity thus defined, has shown a positive result on organizational performance.

Keywords: *Organizational Ambidexterity; Organizational Context; Structural Differentiation; Interorganizational Relations; Firm Performance*

1. Introduction

Organizational ambidexterity (i.e., a firm's ability to simultaneously pursue exploitation and exploration as two distinct modes of learning) paradigm has received much attention in management research during the last few years. O'Reilly and Tushman (2008; 2011) conceive ambidexterity as a dynamic capability that emphasizes the role of management in the adaptation, integration, and reconfiguration of an organization's skills and resources, in order to adapt to ever-changing environments (Teece, Pisano & Shuen, 1997; Eisenhardt & Martin, 2000; O'Reilly & Tushman, 2008).

Although March (1991) introduced exploration and exploitation as competing forces, research on ambidexterity has since identified three alternative approaches through which exploration and exploitation can thrive concurrently. Ambidexterity can be pursued structurally, with differentiated organizational units focusing on specialized exploration or exploitation activities (Jansen et al., 2009; Raisch et al., 2009; Foss et al., 2015). Alternatively, ambidexterity can be pursued contextually by creating a behavioral capacity to simultaneously explore and exploit within undifferentiated units (Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008; Wang & Rafiq, 2014). Finally, the ambidexterity could be developed through inter-organizational relations through co-exploration and / or co-exploitation (Wilden et al., 2018; Kauppila, 2010, 2015; Russo & Vurro, 2010; Nosella et al., 2012).

The contributions made from the three approaches presented have mainly revolved around the static solutions derived from structural differentiation, organizational context or interorganizational relations. However, recent studies (Herhausen, 2016; Junni et al., 2015; Wu & Wu, 2016) highlight the need for further empirical research concerning the combination of several antecedents of organizational ambidexterity and its consequences.

The purpose of this study is to deal two gaps in the research. The first one of which refers to the way in which firms embrace ambidexterity because, for the time being, we have found no empirical studies dedicated to the interaction between the construction of an appropriate organizational context, structural differentiation, and interorganizational relations.

The second gap has to do with the impact that organizational ambidexterity may cause on performance. Since literature has never jointly treated all the antecedent aspects of ambidexterity, the results about its effects on performance have been disparate. As pointed out by Stettner and Lavie (2014), these inconsistencies can partly be ascribed to the restricted focus of prior research on exploration and exploitation via particular modes of operation and to the fact that organizations are regarded as being unable to explore and exploit several alternatives at the same time.

In our view, the joint analysis of the main antecedents of ambidexterity and its effects on an organization's performance constitutes a relevant topic both from an academic point of view and in practical terms, since it presents a more holistic vision of organizational ambidestreza by proposing a context of analysis that combines the three possible antecedents of this capacity, and the interrelationships between them, which can contribute in future studies on ambidestreza defining it from a point of view dynamic.

The article is organized as follows. The next section describes the theoretical context underlying the hypotheses for the model. The research model is discussed below, to continue with the analysis of the data and the results obtained. The article ends with the conclusions and discussion.

2. Literature review and research hypotheses

2.1. Structural Differentiation

Tushman and O'Reilly (1996) suggested that organizational ambidexterity could be accomplished by establishing autonomous —structurally separated— exploration and exploitation subunits. These units must be kept together by a common strategic intent, an overarching set of values, and a targeted linking mechanism to leverage shared assets (O'Reilly & Tushman, 2004; O'Reilly et al., 2009).

The implementation of dual structures requires developing idiosyncratic mindsets and mentalities in diverse areas (Gilbert 2005) and helps to defuse conflicts which may otherwise arise from the heterogeneous demands associated with heterogeneous learning modes (Benner & Tushman 2003). Additionally, specializing on exploration (e.g. in R&D) and exploitation (e.g. in manufacturing or sales) facilitates excellence in both domains. The integration of both domains has to be accomplished by the next higher hierarchical level, though. As a result, facilitating knowledge transfer between highly specialized subunits appears as one of the main challenges for top management teams in structurally ambidextrous organizations (Jansen et al. 2008). The coexistence between heterogeneous frames of reference enables firms to prepare for various future scenarios (Gilbert 2005), but at the same time requires the capacity to balance tensions and manage contradictions on the top management level (Andriopoulos & Lewis 2009; Smith & Tushman 2005; Gürttel et al., 2015).

Based on the numerous publications which aim at a positive correlation between structural differentiation and organizational ambidexterity (Jansen et al., 2006, 2009, 2012; Tushman & O'Reilly, 1996; Gupta et al., 2006; O'Reilly & Tushman, 2004; He & Wong, 2004; Raisch et al., 2009; Garaus et al., 2012; Foss et al., 2015), we can pose the following hypothesis:

Hypothesis 1. Structural differentiation will positively influence organizational ambidexterity.

Nevertheless, criticism about the concept of structural ambidexterity is mainly directed at the conceptualization of the top management as the main (or even only) driver of integration (O'Reilly & Tushman, 2011; Smith et al., 2010). In any case, establishing knowledge bridges at multiple hierarchical firm levels (Raisch 2008) and using formal as well as informal integration mechanisms, including cross functional teams or senior team social integration (Jansen et al. 2009; Mihalache et al., 2014) can relieve the pressure on the top level to act as an intermediary between various, highly specialized departments or business units (Gürttel et al., 2015). And even the existence of an ambidextrous organizational context might lead to this integration as will be explained in Section 2.4 of this paper.

2.2. Contextual Ambidexterity

Gibson and Birkinshaw (2004) proposed that the exploration/exploitation tension could be resolved at an individual level through what they termed *contextual* ambidexterity, which they defined as “the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit (p. 209).” In their view, the ability to balance exploration and exploitation rests on an organizational context characterized by an interaction of stretch, discipline, and trust and requires a supportive organizational

context that encourages individuals to make their own judgments as to how to best divide their time between the conflicting demands for alignment and adaptability.

Following Ghoshal and Bartlett's ideas (1994), two groups of attributes can make an organization's behavioral context appropriate for ambidexterity. The first group refers to what Gibson and Birkinshaw describe as the "social context" and reflects a combination of elements that managers build with the aim of giving support to employees (e.g. freedom of initiatives at lower levels for experimentation, feedback and assistance from middle management and technical areas toward employees in the operating line) and building a climate of trust to induce human resources at each level of the hierarchy in balancing experimentation with alignment to continuous improvement. If managers want to implement measures that can prove effective in order to achieve innovation, they should also adopt a combination of practices, standards, and incentives to foster discipline and stretch in inducing employees to strive for continuous improvement and adaptability, i.e. the "performance management context" (Úbeda et al., 2018). Whereas performance management mechanisms encourage employees to seek high-quality results and make them accountable for their success, social support relates to providing human resources as securely and broadly as necessary to perform consistently taking advantage of their highest potential (Martini et al., 2015; Úbeda et al., 2017; Schnellbacher, Heidenreich & Wald, 2019).

Considering the literature that finds a positive correlation between organizational context and ambidexterity leads us to propose the next hypothesis:

Hypothesis 2. Organizational context will positively influence organizational ambidexterity.

Nonetheless, the studies focused on analyzing the organizational context as an antecedent of ambidexterity have also been the object of some criticism. Criticism of the

contextual ambidexterity concept is mainly directed at the limited scope of this approach, because only very few firms or units can operate in this way and adopt contextual ambidextrous organizational designs (Inkpen & Tsang 2005; Gürttel et al., 2015).

2.3. Cross-boundary ambidexterity

Researchers have only recently begun to consider that structures, management systems, and other firm-level characteristics may not suffice to fully explain organizational ambidexterity. Kang et al. (2007) suggested that, because organizations have few mechanisms available to avoid harmful conflicts between exploration and exploitation, ambidexterity might be more successfully created through the use of networks within and across firm boundaries. Similarly, alliance researchers have argued that interorganizational partners play a key role in strengthening and complementing firms' exploration and exploitation agendas (Baum et al., 2000; Lavie & Rosenkopf, 2006; Heimeriks et al., 2007; Kauppila, 2010; Lavie et al., 2011).

Interorganizational ambidexterity implies a simultaneous development of exploration and exploitation supported on interorganizational relations (Kauppila, 2010, 2015). Parmigiani and Rivera-Santos (2011) introduced the concepts of co-exploration and co-exploitation to describe two constituent elements of an interorganizational relation. Co-exploitation can be described as a voluntary cooperative agreement to execute knowledge, tasks, functions or activities where the emphasis is placed on using and expanding the already existing knowledge. Instead, co-exploration represents a voluntary cooperative agreement to create new knowledge, tasks, functions or activities. Taking this co-exploitation and co-operation approach as a reference would make it possible to deal with the development of interorganizational relations as an antecedent to organizational ambidexterity which, in addition to being complementary to those

examined above, can also avoid the trade-offs and the learning traps that may accompany exploration and exploitation if they are exclusively based on internal factors (Kauppila, 2010).

In the light of these assumptions, we suggest the following hypothesis.

Hypothesis 3. Interorganizational relations (co-exploration and co-exploitation) will positively influence organizational ambidexterity.

2.4. Organizational ambidexterity as a dynamic construction

Even though several theoretical frameworks have been utilized to explain organizational ambidexterity (e.g. organizational learning, technological innovation, organizational adaptation, strategic management, and organizational design), we continue to see the dynamic capabilities perspective as the most suitable one when it comes to understanding ambidexterity. Dynamic capabilities might be defined as the firm's capacity to integrate, create, and reshape internal as well as external competences for the purpose of facing the rapid changes that take place in the environment (Teece et al., 1997). Dynamic capabilities become visible in those managers' decisions which help an organization to reallocate and reshape skills and assets so that the firm can exploit the existing competences and develop new ones (O'Reilly & Tushman, 2008; Taylor & Helfat, 2009). Organizational (structural, contextual or interorganizational) ambidexterity is thus reflected on a complex set of decisions and routines which allow the organization to detect and take advantage of new opportunities through the reallocation of organizational assets. Therefore, whereas each distinct antecedent provides interesting explanations about ambidexterity, a comprehensive picture of how a firm can create ambidexterity is missing. Firms will most probably create ambidexterity through a combination of structural and contextual antecedents, and at both organizational and interorganizational levels, rather than through any single

organizational or interorganizational antecedent alone. This holistic approach to antecedent factors provides a more dynamic vision of organizational ambidexterity.

The structural separation between exploration and exploitation is a necessary but not sufficient condition for organizational ambidexterity. As pointed out by Jansen et al. (2009) ambidextrous organizations need routines and processes to mobilize, coordinate, and integrate the exploration and exploitation activities which are structurally separated at every organizational level. In this sense, the contextual ambidexterity model stresses the capacity of firms to seek and embrace new knowledge, as well as to align it with the goals pursued by the organization. Consequently, organizations need to have at their disposal integration elements which can ensure adaptability and alignment (Monferrer, Moliner & Estrada, 2019).

Previous studies have revealed that an outstanding place among such integration elements corresponds to performance management and supporting contextual attributes (Gibson & Birkinshaw, 2004). Likewise, the absorptive capacity perspective strengthens even to a greater extent the importance of the ambidextrous context in those organizations which explore and exploit it in different organizational units and/or use interorganizational partnerships in their exploration and exploitation processes. Cohen and Levinthal (1990) highlighted the need for firms to have absorptive capacity in order to recognize the value of new knowledge, to assimilate it, and to apply it for commercial purposes. This absorptive capacity largely depends on the previous knowledge owned by the firm. Since contextually ambidextrous organizations carry out activities related to exploration and exploitation simultaneously, they will be able to recognize, assess, and assimilate the new exploration and/or exploitation knowledge originated both inside and outside the organization. While structural differentiation and interorganizational relations are needed to create differentiation between exploratory and exploitative

capabilities, contextual ambidexterity is required to create integration between dual structures/partnerships with behavioral and social means (Andriopoulos & Lewis, 2009; Güttel et al., 2015; Yacoub, Ojiako and Williams, 2019). As explained by Martini et al., (2015), organizations achieve more successful ambidextrous solutions when they combine structural differentiation (including external exploration and/or exploitation) with an organizational context that shows the dimensions suggested by Gibson and Birkinshaw (2004).

In view of the above, one could deduce that an ambidextrous organizational context becomes necessary to balance the exploration and exploitation derived from structural differentiation and interorganizational relations. This leads us to propose the following hypotheses:

Hypothesis 4. The organizational context acts as a mediator variable between structural differentiation and organizational ambidexterity.

Hypothesis 5. The organizational context acts as a mediator variable between interorganizational relations and organizational ambidexterity.

2.5. Organizational ambidexterity and firm performance

One of the main issues raised by the literature on organizational ambidexterity is the possible link between this capability and an organization's performance. Yet, mixed empirical evidence exists about the effects of organizational ambidexterity (Junni et al., 2013).

Firms that achieve ambidexterity should be well-placed to overcome a success trap associated with excessive exploitation (where current capabilities, products, and services are refined to highly efficient states but remain vulnerable to new ideas and market changes), and a failure trap related to excessive exploration (where new ideas

are underdeveloped to such an extent that they do not generate enough income for the firm or they fail to resonate sufficiently with the market to be accepted).

Organizational ambidexterity has been positively associated with measures of firm growth and sales growth (Auh & Menguc, 2005; He & Wong, 2004; Katila & Ahuja, 2002), including longitudinally over time (Geerts et al., 2010); studies using subjective measures (Bierly & Daly, 2007; Cao et al., 2009; Gibson & Birkinshaw, 2004; Hughes et al., 2010; Lin et al., 2013; Lubatkin et al., 2006; Morgan & Berthon, 2008) and objective measures (Goosen et al., 2012; Uotila et al., 2009; Voss & Voss, 2013; Wang & Li, 2008) of firm performance have reported positive effects; and others find support for the claims made by March (1991) that ambidexterity contributes to firm survival (Cottrell & Nault, 2004; Hill & Birkinshaw, 2014; Piao, 2010).

Other scholars have found more complex effects, though. Caspin-Wagner et al. (2012) and Uotila et al. (2009) evidence an inverted U-shaped relationship between ambidexterity and financial performance. Other studies suggest that organizational ambidexterity can have further negative effects on firm performance by being duplicative and inefficient (Ebben & Johnson, 2005).

These arguments serve as the basis for our proposal of a final hypothesis which relates organizational ambidexterity to performance.

Hypothesis 6. Organizational ambidexterity will positively influence firm performance.

Figure 1 shows the theoretical model proposed, along with, the hypotheses to be tested.

Insert Figure 1

3. Research method

3.1. Sample and data collection

Data from a sample of hotels belonging to Spanish hotel chains were collected to test our model. We chose this sector to carry out the present study for two reasons: (a) the

importance of this industry in Spain (12% of the GDP); and (b) because very few studies have examined the role played by organizational ambidexterity in the hotel industry.

Data collection took place through an online survey developed between January and December 2018. To deal with potential problems associated with single-informant bias and common method bias, we temporarily separated the measurement of independent and dependent variables and collected data at two different points in time.

During an initial stage, the answers given by the human resource managers of hotels in relation to the independent variables “structural differentiation” and “interorganizational relations” —as well as to the variable “organizational context”— were compiled. Six months later, the hotel managers received a questionnaire referred to the dependent variables “performance” and “organizational ambidexterity.” Out of 1,000 hotels that shaped the population under study, we received the complete set of responses from the hotel managers and human resource managers (after three reminder rounds) of 120 hotels.

This sample size can be considered adequate since, according to Reinartz et al. (2009), this number of observations may be enough to reach acceptable levels of statistical power using the PLS technique. The hotels in the sample have 60 employees on average, with an average number of 176 rooms; 30.83% are 3-star hotels, the remaining 69.17% being 4- and 5-star hotels. All the hotels in the sample belong to internationalized Spanish hotel chains.

To test for non-response bias, we examined differences between respondents and non-respondents. *t*-Test showed no significant differences based on control variables (size and category) either. A comparison was also drawn between early and late respondents

in terms of demographics and model variables. These comparisons did not reveal any differences ($p < 0.05$), thus showing that non-response bias was not a problem.

3.2. Measurement of variables

We used multi-item scales that are well consolidated in the literature for construct operationalization purposes; our item measurements range on a scale from 1 (strongly disagree) to 7 (strongly agree). A full list of the scales utilized and all the associated items can be found in Appendix 1.

Structural Differentiation was measured by means of three items adapted from Jansen et al. (2009) through which we asked the respondents to express their level of agreement or disagreement with some statements about the extent to which organizations segment the activities involved in the exploration and exploitation process into separate units.

Organizational Context. This variable was regarded as a second-order construct formed by two first-order reflective constructs —*social support* and *performance management context*— that we measured with an adaptation of the scales developed by Gibson and Birkinshaw (2004) and Ghosal and Barlett (1994). The four-item measure for “social support” captures the degree to which management systems inside organizations encourage people to challenge outmoded practices and devote considerable effort in developing subordinates, pushing decisions down to the lowest appropriate level. The three-item scale for “performance management context” captures the extent to which managers use business goals and performance indicators to run their business, thus establishing clear standards and leading members to voluntarily strive to meet all expectations.

Interorganizational Relations. Our model contemplated this variable as a second-order construct shaped by two first-order reflective constructs —co-exploration and co-exploitation— that we measured using the scales developed by Kauppila (2015).

Organizational Ambidexterity. This variable was measured by means of the scales developed by Jansen *et al.* (2006, 2009), adapting them to our study population and treating these scales referred to exploration and exploitation as orthogonal variables (Gibson & Birkinshaw, 2004, Jansen *et al.*, 2009). Similarly to the previous case, this second-order construct consists of two first-order reflective constructs (exploration and exploitation).

Performance. In this study, perception measures served to capture organizational performance. More specifically, eight items were used that try to capture, on the one hand, general performance criteria (growth of market share, brand recognition, image of the company in the market, growth of sales); and, on the other hand, performance variables more in line with hotel sector companies (income per room, average occupancy, customers' level of satisfaction and employees' satisfaction) (Úbeda et al., 2018).

Control variables. Our research work additionally monitored possible alternative explanations for the relations set forth in the theoretical model through the inclusion of the relevant control variables, namely: hotel size; and hotel category. Firstly, because large organizations are likely to own more resources but they also may lack the flexibility required to be ambidextrous, it was decided to include the number of full-time employees as an indicator of firm size, insofar as greater size has traditionally been associated with inertia and difficulties in processing information –these being aspects related to change of resources and the failure to adapt to ever-changing conditions (Tushman and Romanelli, 1985); On the other hand, higher star ratings are generally associated with higher efficiency (Assaf et al., 2012).

4. Analysis and results

Variance-based structural equation modeling (PLS) helped us to test the proposed relationships. Since the PLS technique does not permit to directly represent second-order factors, the latter cannot be created without previously calculating the factor scores of first-order constructs (latent variable scores) —subsequently regarded as indicators of second-order factors (Chin *et al.*, 2003). Thus, in an initial stage, the first-order factors which constitute organizational context, interorganizational relations, and organizational ambidexterity were included in the model on a separate basis with their respective indicators. A second step consisted in estimating a model which used the factor scores (latent variable scores) calculated during the first step for each one of the first-order components. Once the final model was constructed, we proceeded to evaluate it following the two basic stages of evaluation in PLS models: i.e. evaluation of the measurement model; and evaluation of the structural model.

The model suggested shows a standardized root mean square residual (SRMSR?) of $0.070 < 0.08$ (Hu & Bentler, 1998), which means that it has a good overall fit.

4.1. Measurement model assessment

For reflective constructs in the PLS context, this first stage was evaluated analyzing not only the individual reliability of indicators but also the reliability and validity of the scale. We evaluated the indicators for individual reliability through the value of their loadings (λ). In this sense, all loads exceeded the value of 0.7 as recommended in the literature. This first phase should also include scale evaluation by means of Cronbach's α index and the composite reliability index, along with, Dijkstra-Henseler's (ρ_A) indicator. The existence of convergent validity could also be verified through the examination of extracted mean variance (AVE). As shown in Table 1, both the alpha value, composite reliability, and ρ_A exceeded the critical value of 0.7 in every variable; and the AVE value was situated above 0.5 (Fornell & Lacker, 1981).

Insert Table 1

Finally, the analysis of measurement models requires verifying the existence of discriminant validity. In this sense, the most widely accepted method in PLS is the verification between the AVE value of each construct with the square of the correlation of that same construct with each one of the variables. Thus, if AVE is greater than the squared correlation, it clearly means that each construct is related more strongly to its own measures than to other variables (Fornell & Larcker, 1981). Furthermore, the Heterotrait-Monotrait Ratio (HTMT) criterion has a threshold of 0.85 (Kline, 2011). Table 2 shows the results obtained and how they confirm discriminant validity.

Insert Table 2

4.2. Structural model assessment

In order to assess the structural model, we firstly evaluated the possible co-linearity problems. According to Hair et al. (2014), there will be signs of co-linearity when the variance inflation factor (VIF)>5. VIF values never exceeded the maximum value in this study.

A second analysis focused on the algebraic sign, magnitude, and significance of the path coefficients which show the estimates of structural model relationships, i.e. the hypothesized relationships between constructs. In order to assess the significance of these coefficients, the non-parametric bootstrapping technique of 5,000 samples was used to obtain the t statistics and the confidence intervals (see Table 3). The four direct effects described in Figure 1 turned out to be significant because they exceeded the minimum level of a Student's t distribution with a tail and $n-1$ (n = number of resamples) degrees of freedom. The same result is obtained in 95% confidence intervals. Therefore, structural differentiation ($\beta=0.29$, $p<0.001$), organizational context ($\beta=0.32$, $p<0.001$), and interorganizational relations ($\beta=0.37$, $p<0.001$) positively influence

organizational ambidexterity, which leads to confirm Hypotheses 1, 2, and 3. In turn, organizational ambidexterity ($\beta=0.49$, $p<0.001$) has a positive impact on organizational performance, which means that Hypothesis 6 is corroborated (see Table 3).

We also assessed the value of R^2 , which is 0.250 for the variable “organizational performance,” 0.400 for the variable “organizational ambidexterity,” and 0.16 for “organizational context” (see Table 3).

The structural model was also evaluated using the Stone-Geisser test (Q^2) and following a blindfolding procedure (Chin, 1998). A Q^2 greater than zero implies that the model has predictive relevance. The findings shown in Table 3 confirm that the suggested model has a satisfactory predictive relevance for all dependent variables.

Insert Table 3

4.3. The mediation analysis

According to the research model (Fig. 1), H4 and H5 represent mediation hypothesis which posit how, or by what means, an independent variable (structural differentiation and interorganizational relations) affects a dependent variable (organizational ambidexterity) through a mediator variable (organizational context) (Preacher & Hayes, 2008). The total effect of structural differentiation and interorganizational relations on organizational ambidexterity shown in Fig. 1 can be expressed as the sum of the direct effects and the indirect ones, the latter being estimated through the multiplication of the path coefficients by each of the paths in the mediational chain. Concerning Hypothesis 4, total effect = $c' + ab$, with the last term representing the specific indirect effect, while c' is the direct effect (H1), controlling for the mediator (organizational context). As for Hypothesis 5, total effect = $c'' + db$, where the first addend represents the direct effect (H3) caused by interorganizational relations on organizational ambidexterity; and the

second one reveals the indirect effect through the mediation of the organizational context.

Chin (2010) proposes a two-stage process to test mediation in PLS: 1) using the specific model with the inclusion not only of the direct effects but also of the indirect ones, performing N bootstrap resampling, and explicitly calculating the product of the direct paths that form the indirect path under assessment; and 2) estimating significance by means of percentile bootstrap bias-corrected (Hayes & Scharkow, 2013). This generates a 95% confidence interval for the mediator variable. If the interval for a hypothesis does not contain the value zero, it means that the indirect effect is significantly different from zero at a 95% confidence level.

Table 4 allows us to check that structural differentiation and interorganizational relations have a significant total effect on organizational ambidexterity. When the mediator variable is introduced, structural differentiation continues to impact significantly on the dependent variable (H1:c'); or expressed differently, the organizational context mediates the relationship between structural differentiation and organizational ambidexterity. Instead, the mediation effect is smaller when it comes to interorganizational relations, even though it remains significant.

Insert Table 4

We calculated Variance Accounted For (VAF)¹ to know whether mediation is partial or total. VAF value is 0.312 for Hypothesis 4 and 0.01 for Hypothesis 5. The value is lower than 0.8 in both of them, which allows us to say that the mediation is partial and complementary in these two cases, insofar as the values of b, d, c' and c'' show the

¹ VAF=(Indirect effect)/(Total effect)

same positive direction. In other words, Hypotheses 4 and 5 can be deemed as confirmed.

5. Conclusions and discussion

On the basis of previous conceptual and empirical research works which suggest an integrated vision of ambidextrous organizations (Kauppila, 2010; Chang & Hughes, 2012; Birkinshaw & Gupta, 2013; O'Reilly & Tushman, 2013), we have proposed a model to conceptualize the ambidextrous organization through the combination of the three antecedent factors most often used in the literature: structural differentiation; organizational context; and interorganizational relations and the effect of such ambidexterity on organizational results.

With regard to the influence exerted by ambidexterity on firm performance, this study reveals a positive effect in line with the findings of other works (Gibson & Birkinshaw, 2004; He & Wong, 2004; Lubatkin et al., 2006; Hughes et al., 2010; Lin et al., 2013). Therefore, the simultaneous search for exploration and exploitation activities —both internally (structural differentiation and organizational context) and from an external point of view (interorganizational relations)— minimizes the risks associated with the success trap and/or the failure trap, since the possibility exists to exceed the risk of rigidities and the obsolescence of excessive exploitation and, at the same time, that of failing to obtain the yields derived from exploration.

According to the results achieved, organizational ambidexterity would be reached resolving the exploration and exploitation tensions across different organizational units (structural differentiation), as well as using the resolution of such tensions through the search for exploration and exploitation outside the firm's boundaries (interorganizational relations) and the availability of an organizational context which

permits to carry out the integration of the various knowledge sources. The findings of this work make it possible to embrace a conception of organizational ambidexterity from the dynamic capabilities approach, seeing it as a capacity thanks to which organizations can not only mobilize, coordinate, and integrate scattered exploration and exploitation knowledge but also allocate, reassign, combine and recombine resources and assets in dispersed exploratory and exploitative units both inside and outside the organization (O'Reilly & Tushman 2013; Teece 2007; Kauppila, 2010; Chang & Hughes, 2012; Birkinshaw & Gupta, 2013; Zhang, Wang & Wei, 2019). This study consequently helps in the recent debate which highlights that no evidence has been provided that any individual mode (i.e. contextual, structural or cross-boundary ambidexterity) outperforms the others (Almahendra & Ambos, 2015).

Our findings encourage future research to go beyond the static conception of organizational ambidexterity considering a single antecedent and suggest that the studies undertaken in the coming years should examine the role played by the organizational context not only as an essential factor in contextual ambidexterity but also in terms of its function as a mechanism for the integration of exploration and exploitation originated in separate organizational units or of the relations maintained by the organization with other firms.

This research has revealed that the effects of structural differentiation and interorganizational relations on ambidexterity is both direct and indirect, operating through the organizational context characterized by social support and performance management. In this respect, our study makes a contribution to the previous literature that theorized on the link which had to exist between structural, interorganizational, and contextual ambidexterity (Kauppila, 2010; Im & Rai, 2008; Lin et al., 2007). Organizational context has been proved to act as a mechanism of integration not only

between internal exploratory and exploitative units but also between external exploration and exploitation, thus opening a new research path along such lines.

In any case, it is worth highlighting that, despite being significant, the mediation effect of the organizational context when it comes to interorganizational relations is limited. This might be due to the fact that, in most cases, hotel firms have resorted to internal exploration rather than to the external one. To which must be added that, as pointed out by Kauppila (2010), in interorganizational exploitation relations, it is generally sufficient for the different partners to have a shared reference framework which allows them to acknowledge and assess the relevant external knowledge; instead, the integration of exploratory partnership requires related internal knowledge, for which the firm needs to have a greater capacity to assimilate and apply external knowledge.

Structural, contextual, and interorganizational factors can mutually reinforce one another, working at higher levels —through the creation of separate organizational units for exploration and exploitation or resorting to external agents to explore or exploit, or to choose the combination of antecedents best suited to the organization at each moment— as well as at lower levels —pushing employees to be accountable for their results and creating a climate where managers support employees' development. The model proposed in this research which illustrates the joint action of all these elements not only enables a holistic and dynamic view of the ambidextrous organization by examining the co-alignment of structural, contextual, and interorganizational antecedents but also shows the multilevel nature of organizational ambidexterity, thus making a contribution to the scarce literature which deals with ambidexterity from different organizational levels (Raisch et al., 2009; Simsek, 2009; Kauppila, 2010; Birkinshaw et al., 2016; Kassotaki et al., 2018).

Such evidence highlights the relevant practical contributions that this paper provides to managers as well. Based on its results, firm managers can resolve the tension between exploration and exploitation through structural differentiation, and creating an appropriate organizational context which stimulates people to solve problems and to assume responsibility for their objectives, as well as through collaboration with other organizations. This broader conception of ambidexterity offers managers the opportunity to understand that the development of this capacity goes beyond the use of a single antecedent factor and also that the combination of all factors can achieve a better organizational performance.

The model proposed in this paper on the basis of considering the three antecedents of ambidexterity is an incipient work which faces limitations that may pave the way for future research initiatives. Firstly, the dynamics regarding how structural, contextual, and interorganizational solutions interact and complement one another inside an organization to achieve ambidexterity still remains unexplored and could open the door to future works. Secondly, the organizational context appears as an important component in the achievement of ambidexterity both directly and in an indirect manner, but it remains to be known how that context acts to help reshape the knowledge obtained from structurally separated units or coming from other firms. Thirdly, further research would be needed to shed light on the way in which each antecedent of ambidexterity is managed across multiple organizational levels. And finally, because the study refers to Spanish hotel firms, it seems more than advisable to compare the results through the implementation of research in other activity sectors and other territories.

6. References

- Almahendra, R., & Ambos, B. (2015). Exploration and exploitation: a 20-year review of evolution and reconceptualisation. *International Journal of Innovation Management*, 19(01), 1550008.
- Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science*, 20(4), 696-717.
- Assaf, A.G., Josiassen, A., Ratchford, B.T., & Barros, C.P. (2012). Internationalization and performance of retail firms: a Bayesian dynamic model. *Journal of Retailing*, 88(2), 191-205.
- Auh, S., & Menguc, B. (2005). Balancing exploration and exploitation: The moderating role of competitive intensity. *Journal of Business Research*, 58(12), 1652-1661.
- Baum, J. A., Li, S. X., & Usher, J. M. (2000). Making the next move: How experiential and vicarious learning shape the locations of chains' acquisitions. *Administrative Science Quarterly*, 45(4), 766-801.
- Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review*, 28(2), 238-256.
- Birkinshaw, J., & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. *Academy of Management Perspectives*, 27(4), 287-298.
- Birkinshaw, J., Zimmermann, A., & Raisch, S. (2016). How do firms adapt to discontinuous change? Bridging the dynamic capabilities and ambidexterity perspectives. *California Management Review*, 58(4), 36-58.
- Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects. *Organization Science*, 20(4), 781-796.
- Caspin-Wagner, K., Ellis, S., & Tishler, A. (2012). Balancing exploration and exploitation for firm's superior performance: The role of the environment. In *Academy of Management Proceedings*. Academy of Management Briarcliff Manor, NY 10510.
- Chang, Y. Y., & Hughes, M. (2012). Drivers of innovation ambidexterity in small-to medium-sized firms. *European Management Journal*, 30(1), 1-17.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295(2), 295-336.
- Chin, W. W. (2010). How to write up and report PLS analyses. In *Handbook of partial least squares* (pp. 655-690). Springer, Berlin, Heidelberg.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 128-152.
- Cottrell, T., & Nault, B. R. (2004). Product variety and firm survival in the microcomputer software industry. *Strategic Management Journal*, 25(10), 1005-1025.

- Ebben, J. J., & Johnson, A. C. (2005). Efficiency, flexibility, or both? Evidence linking strategy to performance in small firms. *Strategic Management Journal*, 26(13), 1249-1259.
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, 21(10- 11), 1105-1121.
- F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research. *European Business Review*, 26(2), 106-121.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 382-388.
- Foss, N. J., Lyngsie, J., & Zahra, S. A. (2015). Organizational design correlates of entrepreneurship: The roles of decentralization and formalization for opportunity discovery and realization. *Strategic Organization*, 13(1), 32-60.
- Fourné, S. P., Rosenbusch, N., Heyden, M. L., & Jansen, J. J. (2019). Structural and contextual approaches to ambidexterity: A meta-analysis of organizational and environmental contingencies. *European Management Journal*. doi.org/10.1016/j.emj.2019.04.002.
- Garaus, Christian, Mueller, Barbara, Guettel, Wolfgang and Konlechner, Stefan (2012). Balancing, fueling and linking exploration and exploitation: A closer look at the interplay of applied practices in an R&D focused organization. Working Paper. Johannes Kepler University, Linz, Austria.
- Geerts, A., Blindenbach-Driessen, F., & Gemmel, P. (2010). Achieving a balance between exploration and exploitation in service firms: a longitudinal study. In *Academy of Management Proceedings* (Vol. 2010, No. 1, pp. 1-6). Briarcliff Manor, NY 10510: Academy of Management.
- Ghoshal, S., & Bartlett, C. A. (1994). Linking organizational context and managerial action: The dimensions of quality of management. *Strategic management journal*, 15(S2), 91-112.
- Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of management Journal*, 47(2), 209-226.
- Gilbert, C. G. (2005). Unbundling the structure of inertia: Resource versus routine rigidity. *Academy of Management Journal*, 48(5), 741-763.
- Goossen, M. C., Bazzazian, N., & Phelps, C. (2012). Consistently capricious: The performance effects of simultaneous and sequential ambidexterity. In *Academy of Management Proceedings*. Academy of Management Briarcliff Manor, NY 10510.
- Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, 49(4), 693-706.
- Güttel, W. H., Konlechner, S. W., & Trede, J. K. (2015). Standardized individuality versus individualized standardization: the role of the context in structurally ambidextrous organizations. *Review of Managerial Science*, 9(2), 261-284.
- Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: Does method really matter? *Psychological Science*, 24(10), 1918-1927.

- He, Z. L., & Wong, P. K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science*, 15(4), 481-494.
- Heimeriks, K. H., Duysters, G., & Vanhaverbeke, W. (2007). Learning mechanisms and differential performance in alliance portfolios. *Strategic Organization*, 5(4), 373-408.
- Herhausen, D. (2016). Unfolding the ambidextrous effects of proactive and responsive market orientation. *Journal of Business Research*, 69(7), 2585-2593.
- Hill, S. A., & Birkinshaw, J. (2014). Ambidexterity and survival in corporate venture units. *Journal of Management*, 40(7), 1899-1931.
- Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424.
- Hughes, M., Martin, S. L., Morgan, R. E., & Robson, M. J. (2010). Realizing product-market advantage in high-technology international new ventures: The mediating role of ambidextrous innovation. *Journal of International Marketing*, 18(4), 1-21.
- Im, G., & Rai, A. (2008). Knowledge sharing ambidexterity in long-term interorganizational relationships. *Management Science*, 54(7), 1281-1296.
- Inkpen, A. C., & Tsang, E. W. (2005). Social capital, networks, and knowledge transfer. *Academy of Management Review*, 30(1), 146-165.
- Jansen, J. J., George, G., Van den Bosch, F. A., & Volberda, H. W. (2008). Senior team attributes and organizational ambidexterity: The moderating role of transformational leadership. *Journal of Management Studies*, 45(5), 982-1007.
- Jansen, J. J., Simsek, Z., & Cao, Q. (2012). Ambidexterity and performance in multiunit contexts: Cross-level moderating effects of structural and resource attributes. *Strategic Management Journal*, 33(11), 1286-1303.
- Jansen, J. J., Tempelaar, M. P., Van den Bosch, F. A., & Volberda, H. W. (2009). Structural differentiation and ambidexterity: The mediating role of integration mechanisms. *Organization Science*, 20(4), 797-811.
- Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, 52(11), 1661-1674.
- Junni, P., Sarala, R. M., Taras, V., & Tarba, S. Y. (2013). Organizational ambidexterity and performance: A meta-analysis. *Academy of Management Perspectives*, 27(4), 299-312.
- Junni, P., Sarala, R. M., Tarba, S. Y., Liu, Y., & Cooper, C. L. (2015). Guest editors' introduction: The role of human resources and organizational factors in ambidexterity. *Human Resource Management*, 54(S1), s1-s28.
- Kang, S. C., Morris, S. S., & Snell, S. A. (2007). Relational archetypes, organizational learning, and value creation: Extending the human resource architecture. *Academy of Management Review*, 32(1), 236-256.
- Kassotaki, O., Paroutis, S. and Morrell, K. (2018). Ambidexterity Penetration across Multiple Organizational Levels in an Aerospace and Defense Organization. In press at Long Range Planning. <https://doi.org/10.1016/j.lrp.2018.06>.

- Katila, R., & Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of Management Journal*, 45(6), 1183-1194.
- Kauppila, O. P. (2010). Creating ambidexterity by integrating and balancing structurally separate interorganizational partnerships. *Strategic Organization*, 8(4), 283-312.
- Kauppila, O. P. (2015). Alliance management capability and firm performance: Using resource-based theory to look inside the process black box. *Long Range Planning*, 48(3), 151-167.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: Guilford Press.
- Lavie, D., & Rosenkopf, L. (2006). Balancing exploration and exploitation in alliance formation. *Academy of Management Journal*, 49(4), 797-818.
- Lavie, D., Kang, J., & Rosenkopf, L. (2011). Balance within and across domains: The performance implications of exploration and exploitation in alliances. *Organization Science*, 22(6), 1517-1538.
- Lin, H. E., McDonough III, E. F., Lin, S. J., & Lin, C. Y. Y. (2013). Managing the exploitation/exploration paradox: The role of a learning capability and innovation ambidexterity. *Journal of Product Innovation Management*, 30(2), 262-278.
- Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small-to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, 32(5), 646-672.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, 2(1), 71-87.
- Martini, A., Neirotti, P., & Aloini, D. (2015). Finding the way to ambidexterity: Exploring the relationships among organisational design, knowledge creation and innovation. *International Journal of Innovation Management*, 19(04), 1550045.
- Mihalache, O. R., Jansen, J. J., Van den Bosch, F. A., & Volberda, H. W. (2014). Top management team shared leadership and organizational ambidexterity: A moderated mediation framework. *Strategic Entrepreneurship Journal*, 8(2), 128-148.
- Monferrer Tirado, D., Moliner Tena, M. Á., & Estrada Guillén, M. (2019). Ambidexterity as a Key Factor in Banks' Performance: A Marketing Approach. *Journal of Marketing Theory and Practice*, 27(2), 227-250.
- Morgan, R. E., & Berthon, P. (2008). Market orientation, generative learning, innovation strategy and business performance inter- relationships in bioscience firms. *Journal of Management Studies*, 45(8), 1329-1353.
- Nosella, A., Cantarello, S., & Filippini, R. (2012). The intellectual structure of organizational ambidexterity: A bibliographic investigation into the state of the art. *Strategic Organization*, 10(4), 450-465.
- O'Reilly III, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior*, 28, 185-206.
- O'Reilly 3rd, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard Business Review*, 82(4), 74.
- O'Reilly III, C. A., & Tushman, M. L. (2011). Organizational ambidexterity in action: How managers explore and exploit. *California Management Review*, 53(4), 5-22.

- O'Reilly III, C. A., & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. *Academy of Management Perspectives*, 27(4), 324-338.
- O'Reilly III, C. A., Harrell, J. B., & Tushman, M. L. (2009). Organizational ambidexterity: IBM and emerging business opportunities. *California Management Review*, 51(4), 75-99.
- Parmigiani, A., & Rivera-Santos, M. (2011). Clearing a path through the forest: A meta-review of interorganizational relationships. *Journal of Management*, 37(4), 1108-1136.
- Petro, Y., Ojiako, U., Williams, T., & Marshall, A. (2019). Organizational Ambidexterity: A Critical Review and Development of a Project-Focused Definition. *Journal of Management in Engineering*, 35(3), 03119001.
- Piao, M. (2010). Thriving in the new: Implication of exploration on organizational longevity. *Journal of Management*, 36(6), 1529-1554.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891.
- Raisch, S. (2008). Balanced structures: designing organizations for profitable growth. *Long Range Planning*, 41(5), 483-508.
- Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, 34(3), 375-409.
- Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational ambidexterity: Balancing exploitation and exploration for sustained performance. *Organization Science*, 20(4), 685-695.
- Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, 26(4), 332-344.
- Russo, A., & Vurro, C. (2010). Cross- boundary ambidexterity: Balancing exploration and exploitation in the fuel cell industry. *European Management Review*, 7(1), 30-45.
- Schnellbacher, B., Heidenreich, S., & Wald, A. (2019). Antecedents and effects of individual ambidexterity—A cross-level investigation of exploration and exploitation activities at the employee level. *European Management Journal*, 37, 442-454.
- Simsek, Z. (2009). Organizational ambidexterity: Towards a multilevel understanding. *Journal of Management Studies*, 46(4), 597-624.
- Smith, W. K., & Tushman, M. L. (2005). Managing strategic contradictions: A top management model for managing innovation streams. *Organization Science*, 16(5), 522-536.
- Smith, W. K., Binns, A., & Tushman, M. L. (2010). Complex business models: Managing strategic paradoxes simultaneously. *Long Range Planning*, 43(2-3), 448-461.
- Stettner, U., & Lavie, D. (2014). Ambidexterity under scrutiny: Exploration and exploitation via internal organization, alliances, and acquisitions. *Strategic Management Journal*, 35(13), 1903-1929.
- Taylor, A., & Helfat, C. E. (2009). Organizational linkages for surviving technological change: Complementary assets, middle management, and ambidexterity. *Organization Science*, 20(4), 718-739.

- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Tushman, M. L., & O'Reilly III, C. A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38(4), 8-29.
- Tushman, Michael, and Elaine Romanelli (1985). *Organizational evolution: A metamorphosis model of convergence and reorientation*. In L. L. Cummings and Barry M. Staw (eds.), *Research in Organizational Behavior*, 7: 171- 222. Greenwich, CT: JAI Press.
- Úbeda-García, M., Claver-Cortés, E., Marco-Lajara, B., & Zaragoza-Sáez, P. (2017). Human resource flexibility and performance in the hotel industry: The role of organizational ambidexterity. *Personnel Review*, 46(4), 824-846.
- Úbeda-García, M., Claver-Cortés, E., Marco-Lajara, B., García-Lillo, F., & Zaragoza-Sáez, P. C. (2018). Continuous innovation in the hotel industry: The development of organizational ambidexterity through human capital and organizational culture in Spanish hotels. *International Journal of Contemporary Hospitality Management*, 30(12), 3609-3631.
- Uotila, J., Maula, M., Keil, T., & Zahra, S. A. (2009). Exploration, exploitation, and financial performance: analysis of S&P 500 corporations. *Strategic Management Journal*, 30(2), 221-231.
- Voss, G. B., & Voss, Z. G. (2013). Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains. *Organization Science*, 24(5), 1459-1477.
- Wang, C. L., & Rafiq, M. (2014). Ambidextrous Organizational Culture, Contextual Ambidexterity and New Product Innovation: A Comparative Study of UK and Chinese High-tech Firms. *British Journal of Management*, 25(1), 58-76.
- Wang, H., & Li, J. (2008). Untangling the effects of overexploration and overexploitation on organizational performance: The moderating role of environmental dynamism. *Journal of Management*, 34(5), 925-951.
- Wilden, R., Hohberger, J., Devinney, T. M., & Lavie, D. (2018). Revisiting James March (1991): whither exploration and exploitation? *Strategic Organization*, 16(3), 352-369.
- Wu, Y., & Wu, S. (2016). Managing ambidexterity in creative industries: A survey. *Journal of Business Research*, 69(7), 2388-2396.
- Zhang, L., Wang, Y., & Wei, Z. (2019). How Do Managerial Ties Leverage Innovation Ambidexterity for Firm Growth? *Emerging Markets Finance and Trade*, 55(4), 902-914.

Appendix 1. Variables Measurement (1=I totally disagree; 4=I neither agree nor disagree; 7=I totally agree)

Structural Differentiation

1. Our organization has separate units to enhance innovation and flexibility.
2. We have units that are either focused on the short term or the long term.
3. The line and staff departments are clearly separated within our organization.

Organizational Context

Social Support

1. Managers in my organization devote considerable effort to developing subordinates
2. Managers in my organization push decisions down to the lowest appropriate level
3. Managers have access to the information they need to make good decisions
4. Managers in my organization issue creative challenges to their people instead of narrowly defining tasks

Performance Management Context

1. Managers in my organization use business goals and performance measures to run their business
2. Managers in my organization hold people accountable for their performances
3. Managers in my organization encourage and reward hard work through incentive compensation

Interorganizational Relations

Co-exploration

1. In our innovation-related activities, we pursue collaboration with universities and research centers
2. The intent of our interorganizational collaboration is to create groundbreaking innovations
3. Our interorganizational collaboration enables creating innovations that our firm would not be able to create on its own
4. The search for new opportunities is a key motivation for our firm's interorganizational collaboration

Co-exploitation

1. We use subcontracting to rationalize our business operations
2. Suppliers have an important role in the development of our new products/services
3. Our interorganizational collaboration enables increased efficiency
4. Complementary resources are an important driver of our interorganizational collaboration

Organizational Ambidexterity

Exploitation

1. We frequently carry out small adjustments in our existing products
2. and services

3. We improve efficiency in our product and service provision
4. We increase economies of scales in existing markets
5. Our organization expands services for existing clients

Exploration

1. Our organization accepts demands that go beyond the existing
2. We commercialize products and services that are completely new to our organization
3. We frequently take advantage of new opportunities in new markets
4. Our organization regularly uses new distribution channels

Performance (1=much worse; 4=the same; 7=much better)

1. The growth in my firm's market share relative to competitors during the last three years has been ...
2. My firm's brand recognition relative to competitors during the last three years has been ...
3. My firm's image relative to competitors during the last three years has been...
4. The average growth in my firm's sales relative to competitors during the last three years has been ...
5. My hotel's average occupancy relative to competitors during the last three years has been ...
6. Customers' satisfaction level relative to competitors during the last three years has been ...
7. Employees' satisfaction level relative to competitors during the last three years has been ...
8. Revenues per room in my hotel relative to competitors during the last three years has been ...

Figure 1. Theoretical model and hypotheses

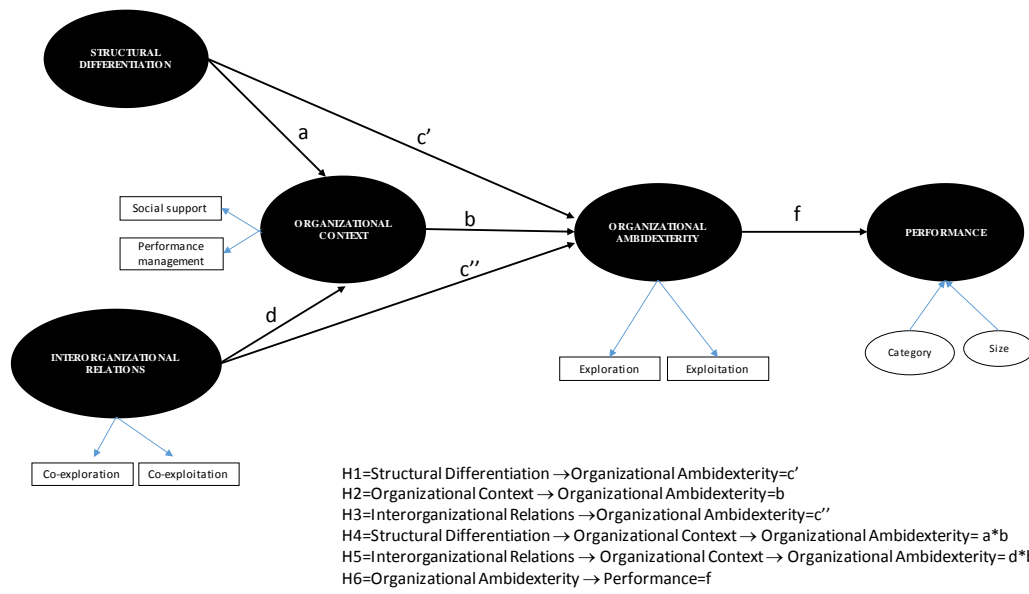


Table 1. Summary of measurement models

	Cronbach's α	rho_A	Composite reliability	AVE
Organizational Ambidexterity	0.704	0.720	0.870	0.770
Organizational Context	0.834	0.843	0.923	0.857
Interorganizational Relations	0.721	0.729	0.877	0.782
Structural Differentiation	0.814	0.843	0.890	0.730
Performance	0.935	0.941	0.946	0.689

Table 2. Discriminant validity

Fornell-Larcker's criterion					
	OA	OC	IR	SD	P
Organizational Ambidexterity	0.878				
Organizational Context	0.457	0.926			
Interorganizational Relations	0.376	0.059	0.884		
Structural Differentiation	0.395	0.390	-0.047	0.854	
Performance	0.494	0.454	0.147	0.260	0.830
Heterotrait-Monotrait Ratio (HTMT)					
	OA	OC	IR	SD	P
Organizational Ambidexterity					
Organizational Context	0.596				
Interorganizational Relations	0.529	0.074			
Structural Differentiation	0.504	0.458	0.105		
Performance	0.595	0.505	0.210	0.285	

OA: Organizational Ambidexterity; OC: Organizational Context; IR: Interorganizational Context; SD: Structural Differentiation; P: Performance

Table 3. Effects on endogenous variables

Effects on endogenous variables	Direct effect	t-Value (bootstrap)	Percentile 95% confidence interval (bias-corrected)	Hypothesis confirmation
Organizational Ambidexterity				
R² = 0.400/Q² = 0.278				
Structural Differentiation	0.29***	3.462	[0.144;0.413]	
H1. Struc. Diffe> OA				Yes
Organizational Context	0.32***	3.921	[0.178;0.447]	
R² = 0.16/Q² = 0.124				
H2. Org. context > OA				Yes
Interorganizational Relations	0.37***	5.221	[0.262;0.497]	
H3. Interorg. relations> OA				Yes
Performance				
R² = 0.250/Q² = 0.148				
H6. OA > Performance	0.49***	5.240	[0.375;0.682]	Yes
Size	0.019	0.342	[-0.067;0.120]	
Category	0.065	0.596	[-0.135;0.225]	

t(0.001, 4999)=3.0912 ***p<0.001

Table 4. Summary of the mediating effect test

Total effect of Structural Differentiation on OA (c')		Direct effect of Structural Differentiation on OA			Indirect effect of Structural Differentiation on OA			
Coefficient	T value		Coefficient	T value		Point estimate	Percentile <i>bootstrap</i> 95% + Bias confidence interval	
							Inferior	Superior
0.416***	5.240	H1=c'	0.286	3.462	Total	0.286	0.264	0.497
					H4= a*b	0.13	0.06	0.206
Total effect of Interorganizational Relations on OA (c')		Direct effect of Interorganizational Relations on OA			Indirect effect of Interorganizational Relations on OA			
Coefficient	T value		Coefficient	T value		Point estimate	Percentile <i>bootstrap</i> 95% + Bias confidence interval	
							Inferior	Superior
0.395***	5.781	H3=c''	0.370	5.221	Total	0.370	0.262	0.497
					H5=d*b	0.025	0.004	0.051

t(0.001, 4999)=3.0912 ***p<0.001



Mercedes Úbeda-García holds a Ph.D. in Economics and is Senior Lecturer of Business Organization at the University of Alicante. She is member of the Tourism Research Institute at the University of Alicante. Her research interests are on the area of organizational design, human resource management, knowledge management and tourism management. She has taken part in several public projects highlighting the public competitive project for the creation of the Tourist Observatory of the Valencian Community and other private projects. She is the author of several books, book chapters and international articles related to teaching methodology, human resource management and strategy. She is the director of Official Master in Tourism at University of Alicante.



Enrique Claver-Cortés (Ph.D., University of Alicante) is professor of Business Administration and Strategic Management Organization at the University of Alicante (Spain). He holds a PhD in Business and Economics. His doctoral dissertation focused on Corporate Social Responsibility, but his primary areas of research cover Tourism Management and Strategic Management also. Likewise, he is member of the Tourism Research Institute at UA. He is the author of several books, book chapters and international articles related to Strategic, Tourism and Human Resource Management. He has taken part in various public projects highlighting, amongst many others, the public competitive project for the creation of the Tourist Observatory of the Valencian Community area in Spain. He also holds the position of director of the Department of Business Administration at the Alicante University.



Bartolomé Marco-Lajara is a Senior Lecturer of Business Organization at the University of Alicante (Spain). He holds a PhD in Economics and his doctoral dissertation focused in strategic alliances management. His research interests are on Strategic Management and Tourism Management. He is author of several books, book chapters and international articles related to teaching methodology and the areas above mentioned. On the other hand, he is member of the Tourism Research Institute at the University of Alicante since its foundation. He is the main investigator of a public competitive project for the creation of the Tourist Observatory of the Valencian Community (Spain), but he has taken part in others public and private projects, such as the development of the strategic plan of the Alicante province for the period 2010-2020. He holds the position of assistant dean of the Economics Faculty at the University of Alicante.



Patrocinio Zaragoza-Sáez (PhD, University of Alicante, Spain). Her primary research interests include several topics of knowledge management, intellectual capital and international management, such as knowledge creation and transfer in multinationals and the knowledge management process. She has published research papers in international journals including *Journal of Business Research*, *Knowledge Management Research and Practice*, *Journal of Knowledge Management*, *Journal of Intellectual Capital*, *Intangible Capital* and *International Journal of Knowledge Management Studies*.